FORT JAMES – CAMAS L.L.C.
Proposed N.P.D.E.S. Permit Renewal
Response to Comments

National Pollutant Discharge Elimination System (NPDES) Permits

Under the federal Clean Water Act, any facility that discharges pollutants into waters of the United States must first obtain an NPDES permit. The permit sets limits on both the types and amounts of discharges that the facility may release into the water body. The federal Environmental Protection Agency (EPA) developed technical limits or standards for certain compounds, based upon industry performance capabilities and upon the risk that predicted exposure to the compounds would pose to human health.

Department of Ecology Industrial Section engineers (Ecology) write and enforce these federal waste water discharge permits – tasks defined and authorized by the EPA, and by the Washington State Legislature (Chapter 90.48 RCW). The terms of this permit reflect Ecology's application of the more stringent discharge limits -–whether technology-based standards or state water quality criteria— and of certain monitoring and reporting requirements.

Process used to consult with the public

Ecology prepared a draft NPDES permit for the Fort James Camas mill (now operated by the Georgia-Pacific Corporation). Copies of the draft permit were available for public examination in Camas (at the mill) and in Vancouver (at the Fort Vancouver Main Public Library). The Department invited public comments about the draft, through a public notice printed in *the Columbian*, and set a period of sixty calendar days—from February 8, 2002 through April 8, 2002—to collect public comment on the draft.

Ecology also advertised and conducted a public hearing of comments about the draft NPDES permit, during the evening of March 13, 2002, at the Camas, Washington high school. Thirty-nine people signed attendance cards; only Mike Hayden chose to record his thoughts for the formal record, and Tom Crozier gave us written comments that night. They observed that operations at the mill have improved, and opined that keeping the mill operating is in the best interest of the community.

A few individuals submitted written comments; some arrived after the public hearing, and most arrived after the public comment period had expired. The first letter arrived March 13, 2002, from Arin M. Dunn, asserting that the mill's existence has a negative impact upon the region's economy and environment.

Ecology received a fax (date-stamped April 9,2002) from Brent Foster, who represents the Columbia River Keeper; he asked that we withdraw and re-write it. His fax also asked us to include nine other organizations on the Camas Mill mailing list:

(1) *Northwest Environmental Defense Center*, Portland,
(2) *Sierra Club – Oregon Chapter*, Portland, and
(3) *Washington Public Interest Research Group*, Seattle;

(4) *Washington Toxic Coalition*, Seattle,
(5) *Sierra Club – Washington Chapter*, Seattle, and
(6) *Oregon State Public Interest Research Group*, Portland;
(7) *Oregon Center for Environmental Health*, Portland,
(8) *Loo Witt Group of the Sierra Club*, Vancouver, and
(9) *Oregon Wildlife Federation*, Portland.

A subsequent letter from the Washington Toxics Coalition declared the group's support for the arguments posed by Brent Foster.

On April 8, 2002 Director Fitzsimmons received an e-mail letter outlining Brent Foster's main points and asking for government-to-government consultation on the permit. The e-mail bore the Columbia River Inter-Tribal Fish Commission banner. That same evening (6:06 pm), Samantha Murray e-mailed both the Governor and Ecology, instructing that we withdraw the proposed permit and re-write it.

The following month, May 9 through May 20, six additional e-mails asked that the Department withdraw the draft permit. The senders' names are: (1) Joe Keating, (2) Fred Suter, and (3) Hearst and Carolyn Coen; (4) Donald Springer, (5) Holly Forrest, and (6) Annalee Cobbett. Their e-mails object, generally, that the draft permit fails to stop the discharge of pollutants into the Columbia River.

While working through the issues that surfaced during the formal comment period, the permit writer/enforcement manager met with the mill operator, an industry trade organization, environmental non-profit groups, and other interests. The issues included: legality of the mixing zone, the effect on dissolved oxygen (DO) from the discharge of biochemical oxygen demand (BOD), turbidity effects; discharge temperature, totally chlorine-free bleaching, and discharge toxicity, among others.

Ecology revisited each of the issues raised. As a result of input from various interests, we incorporated comments or suggestions into the draft permit, as appropriate. We believe, therefore, that the public process worked as it was intended –i.e. the final permit is more protective than it would otherwise be.

To request printed copies of the Fort James (Georgia-Pacific) Camas mill NPDES Permit, Fact Sheet, and this Response to Comments, contact Kathy Vermillion, Public Disclosure Officer, by telephone at (360) 407-6916. For an electronic copy, visit the website: http://www.ecy.wa.gov/programs/swfa/industrial/ and click on the left margin bar titled "facilities" then click on the facility map. If you have questions about the contents of the documents, contact Teddy Le, P.E. by telephone at (360) 407-6948. Both Mr. Le and Ms. Vermillion are located at Washington Department of Ecology, 300 Desmond Drive, in Lacey, Washington.

Introduction to this document

Ecology attempted to respond only to expressed issues and concerns about the published draft waste water discharge permit. Until Ecology issues a new permit, the mill must perform as required by the existing permit. The new permit will change some discharge controls, in keeping with both changes at the mill and changes in pulp and paper mill regulation, so we are eager to update it. We chose, therefore, to forego any attempt to address concerns not related to the published NPDES permit draft.

Each public comment or question is immediately followed by our response, indicating where we changed permit limits or requirements as a result of external comment.

- Section "A" of this document (beginning on page 3) includes comments about the scope and design of this NPDES permit.
- Section "B" (beginning on page 36)focuses on comments about the NPDES program and the waste water discharge permitting process.
- Section "C" starts on page 38. It addresses comments about broader issues that may influence NPDES permit terms and requirements, but are outside of Ecology's authority under the NPDES program.

Although the Georgia-Pacific Corporation purchased the facility, while a legal name change is pending we refer to the permittee as either Fort James or the Camas mill.

Summary of Comments and Responses

Section A – Permit Scope and Design

A.1 – The Mixing Zone

The most frequent comments or questions centered on the mixing zone. The mixing zone is a defined area that surrounds the effluent discharge pipe outfall. Pollution or toxicant levels within that zone may be higher (more concentrated) within the defined zone than in the rest of the receiving water, provided the "mix" of effluent and river water meet water quality standards at the zone's edge, per Chapter 173-201A WAC.

A.1.1 – *The permit allows for a 45-foot zone of acute toxicity around the applicant's effluent pipe outfall. What species are likely to be affected by this zone of acute toxicity? Was this analyzed by DOE and, if so, where?*

Response—

The area surrounding the mill's effluent discharge point is closely defined; it must allow the passage of aquatic organisms, and not upset the ecological balance of the receiving water, even though that "mix" of effluent and river water within the defined area does not meet water quality standards.

The toxicity of a pollutant depends upon its characteristic, the concentration of the pollutant in water, and the length of time an organism is exposed to the pollutant. Acute toxicity refers to the lethal effect of a compound on an organism, where death of the organism occurs within 96 hours of exposure. The EPA derived acute numeric criteria (technological standards) for concentration limits, using test data from exposing several aquatic species to a pollutant for up to four days. The EPA extrapolated the test data to derive a concentration that has no effect on 95% of all aquatic species, provided that exposure is for a period less than one hour.

The species most likely to be affected by the acute mixing zone are benthic organisms; those species subject to constant exposure, that are sensitive to the pollutant, would die. Ecology examines this possibility in the dilution modeling.

The applicant's effluents, because of diffuser design and effluent density, rise when discharged. Therefore, even though the effluent may exceed numeric criteria for a short distance from the outfall, the probability of mortality for any organism floating or

swimming through the effluent, is very small. This probability was determined by EPA-approved hydraulic dilution modeling.

A.1.2 - *How many salmonids or other aquatic species will be killed by effluent toxicity within the initial zone of dilution, during the various upstream and downstream salmon and steelhead migrations? How many resident fish would be adversely affected by the proposed acute and chronic mixing zones? On what data is this estimate based?*

Response—

Ecology expects salmonids and other aquatic species to be little affected by the acute mixing zone during salmon and steelhead migrations. Apart from some loss of habitat area, no resident fish will be adversely affected.

We base this assertion on the interplay of numeric criteria established by EPA, dilution characteristics, effluent characteristics, and the timing of anadromous fish runs. Ecology examined this possibility in the dilution modeling.

A.1.3 – *Migrating salmon pass through this zone. Even brief exposure would significantly affect migrating salmonids—an affect that is plainly contrary to the goal of salmon restoration and to state and federal law. Won't juvenile salmonids in fact be killed or negatively impacted during their downstream migration if they pass through the zone of initial dilution and/or the mixing zone? What data or documents support this finding? Wouldn't the mill's operation under the permit, as drafted, result in a taking of threatened salmonids, in violation of the federal Endangered Species Act?*

Response—

The permitted mixing zone should have no effect, except perhaps some avoidance reaction, on juvenile salmon migrating downstream.

The river velocity at this location at the time of juvenile salmon migration (spring) is somewhere between 1.52 and 3.7 feet/second. Juveniles drifting, but not actively swimming, will pass through the acute zone (45 feet) in a very short time. In some exceptional cases, with very shallow water and high density effluent, the effluent plume could hug the bottom. But juveniles use the upper water column of the river during their downstream migration. Their avoidance reaction may cause some loss of energy, but not death.

Salmonids will survive passage through the mixing zone on their downstream migration; permitting this mixing zone will not, therefore, result in a "taking" under the federal Endangered Species Act.

A.1.4 - *If neither the applicant nor DOE has a comprehensive biological analysis of the species that would be affected by the mixing zone, on what basis can DOE conclude that the proposed discharges would not adversely affect or impair beneficial uses?*

Response—

See our response to **A.1.1**, on page 3. Mixing zones, where effluent flows from an outfall and is diffused in the river, are allowed by law (WAC 173-201A-100) if the wastewater was first treated, using the best technology that is economically achievable. And the size of the mixing zone, *in combination with other mixing zones,* must comply with the most restrictive upstream and downstream distances, must not use more than twenty-five percent of the flow, and must not occupy more than twenty-

five percent of the width of the river. Discharge from the Camas mill effluent pipe falls within the definition and these legal limits.

A.1.5 -- *WAC 173-201A-100(3) requires that "mixing zone determinations shall consider critical discharge conditions." The draft permit and fact sheet, however, do not consider the effect that the mixing zone will have during critical periods of downstream and upstream salmon migration. What effect would the mixing zone have under this condition?*

Response—

Ecology considered the effect that the mixing zone would have under critical discharge conditions, referred to as the 7Q10 flow. In establishing the mixing zone for the Fort James Camas mill, Ecology ran the UDKHDEN -–an EPA-approved mixing zone and dilution computer model— using receiving water parameters that represented the 7Q10 conditions, i.e. discharge at the 10-year recurrence interval, taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the seven-day, 10-year low flow). Based on S. Miller, USGS Water Resources Division, June 1992, the 7Q10 flow for the Columbia River is 80,900 cfs. This 7Q10 flow is consistent with those used in other Lower Columbia River surveys.

A.1.6 – *DOE appears to have little data about either the existing biological uses of the area within and downstream of the proposed mixing zone and no basis for concluding that the proposed mixing zone would not have a reasonable potential to cause the loss of sensitive or important habitat, substantially interfere with existing uses, result in damage to the ecosystem or adversely affect public health. On the basis of what studies has DOE concluded that the proposed mixing zone would not cause a loss to sensitive or important habitat?*

Response—

See our response to **A.1.7**, below, and **A.1.10** on the following page. The State's Water Quality Standards, Chapter 173-201A WAC, were derived from a careful, public process that balanced measures for preserving beneficial uses of the State's waters with limits that are consistent with direction from the federal Clean Water Act. Based upon the mill's past performance, our application of formulas and models within the laws assures that the terms of this permit —including the defined mixing zone— conform to Water Quality Standards and agency policy and practice implementing that chapter. The permit is, therefore, protective of sensitive or important habitat.

A.1.7 - *How is allowing this zone of acute toxicity, or even the zone of chronic toxicity, consistent with state and federal requirements to protect beneficial uses? And what about protecting existing uses that are not specifically listed as a beneficial use?*

Response—

The State's Water Quality Standards, Chapter 173-201A WAC, were derived from a careful, public process that balanced measures for preserving beneficial uses of the State's waters with limits that are consistent with direction from the federal Clean Water Act. The terms of this permit, including the defined mixing zone, conform to Water Quality Standards and agency policy and practice implementing that chapter. The permit is, therefore, protective of beneficial uses.

A.1.8 - *If it is necessary for the applicant to prepare a mixing zone study in the future, on what grounds can DOE issue the proposed permit without the study being prepared first?*

Response—

The mixing zone is based on the location and configuration of the discharge; according to state rule WAC 173-201A-100, the mixing zone must be predetermined for use in the reasonable potential analysis. The mixing zone study is included in this proposed permit in acknowledgement of current federal and state work to develop TMDLs for the Columbia River.

A.1.9 - *Is it true that the area in which the mixing zone would occur is designated as critical habitat for multiple species of threatened salmonids?*

Response—

In February 2000 the National Marine Fisheries Service (NMFS) designated the lower Columbia River as critical habitat for evolutionary significant units of Chinook, Chum, and Steelhead salmonids. Because the designation was challenged, however, implementation has been suspended pending further action by NMFS that complies with the National Environmental Policy Act.

A.1.10 - *How would salmonids and their habitat be affected by the proposed mixing zone? Would the proposed mixing zone have a positive or negative effect on salmonids and salmonid habitat? Has a biologist with DOE analyzed the effect that the proposed discharges will have on salmonid migration? Where is this analysis provided and what did it conclude? If DOE has not performed such analysis, on what grounds could the proposed mixing zone meet the requirements of WAC 173-201A-100(8)?*

Response—

See our responses to **A.1.3**, and **A.1.4**, on page 4. The permitted mixing zone should have no effect on migrating adult salmonids, and perhaps some avoidance reaction, on juvenile salmonids. Juveniles drifting, but not actively swimming, will pass through the acute zone (45 feet) in a very short time. In some exceptional cases, with very shallow water and high density effluent, the effluent plume could hug the bottom. But juveniles use the upper water column of the river during their downstream migration. Their avoidance reaction may cause some loss of energy, but not death.

Ecology relies primarily on compliance with the water quality standards to assure that discharges do not interfere with beneficial uses—including salmonid migration. We therefore base our expectation on the numeric criteria, dilution characteristics, effluent characteristics; and on the time of anadromous fish runs, and bioassay tests.

A.1.11 – *The reasonable potential analysis only makes sense if it applies to whether there would be a reasonable potential to cause a water quality standard violation at the end of the pipe. But with a large enough mixing zone, DOE would not have to include effluent limits for any pollutant; it could merely find there was no reasonable potential –-under CFR 122.44(d)(1)(i)— for any water quality standard to be violated. Too large a mixing zone undermines the purpose and utility of the reasonable potential analysis; it ignores a host of pollutants, (such as ammonia, chromium, copper, lead, nickel, and zinc) for which effluent limits should have been imposed. Did DOE evaluate whether the discharges had reasonable potential to violate water quality criteria at the edge of the mixing zone?*

Response—

State water quality standards allow, and Ecology has authorized in this permit, a mixing zone for the mill's discharge into the river. The small size of the mixing zone reduces the exposure period, and therefore, does not reduce beneficial uses of the water body. To protect aquatic life, the boundary of the acute mixing zone must meet acute numeric criteria. The chronic numeric criteria for the protection of aquatic life must be met at the boundary of the chronic mixing zone. The numeric criteria for the protection of human health must also be met at the boundary of the chronic zone.

To develop effluent limits for the permit, we evaluated whether chromium, copper, nickel, zinc, ammonia, and chloroform concentrations found in the wastewater discharge, would have a reasonable potential to violate state Class A water quality criteria and human health standards, at the edge of the acute and chronic mixing zones. The state water quality criteria (WAC 173-201A-100) would be protective of aquatic life, based on a 1-hour exposure to acute toxicity and a 4-day exposure to chronic toxicity; the human health criteria are protective, based on a 70-year exposure.

Based on the data, Ecology only needed to evaluate chromium, copper, nickel, zinc and ammonia for potential to cause harm to aquatic life. Chloroform and nickel were evaluated for their potential to cause human health effects.

The data used to evaluate the above mentioned elements and compounds indicate that the total chromium meets the chromium^{+6} acute and chronic water quality criteria at the end of the pipe. Zinc and chloroform also meet acute and chronic numeric criteria at the end of the discharge pipe. Copper, nickel, and ammonia meet acute and chronic water quality criteria well before the edge of the acute mixing zone.

We have human health criteria for nickel and chloroform. The mill's concentrations of nickel meet the human health criteria at the end of the pipe, and concentrations of chloroform meet human health criteria well before the edge of the acute mixing zone.

A.1.12 – *Isn't the proposed mixing zone the largest possible under WAC 173-201A-100(7)(a)(i)? If not, please explain how much bigger the mixing zone could have been. Did DOE plan the mixing zone to accommodate a specific pollutant? Which pollutant was the driving factor in the proposed mixing zone size? WAC 173-201A-100(6) requires that "The size of a mixing zone and the concentrations of pollutants present shall be minimized…" What steps did DOE take to ensure that the proposed mixing zone was minimized?*

Response—

In this case, the major pollutant is heat. Ecology authorized the maximum size mixing zone allowable to assure that discharge temperature would meet criteria at the edge. The mixing zone size is based on the configuration and location of the outfall, the flow characteristics of the river, and the mill's effluent characteristics in accordance with WAC 173-201A-100. The concentrations of chemical pollutants were considered after the mixing zone was established.

A.1.13 - *WAC 173-201A-100(8) requires that: "Acute criteria are based on numeric criteria and toxicity tests approved by the department ... and shall be met as near to the point of discharge as practicably attainable." Has DOE determined at what point acute criteria can be met? What calculations were used to calculate this distance? When were these calculations made? If not, on what ground could DOE conclude that WAC 173-201A-100(8)'s requirements have been met?*

Response—

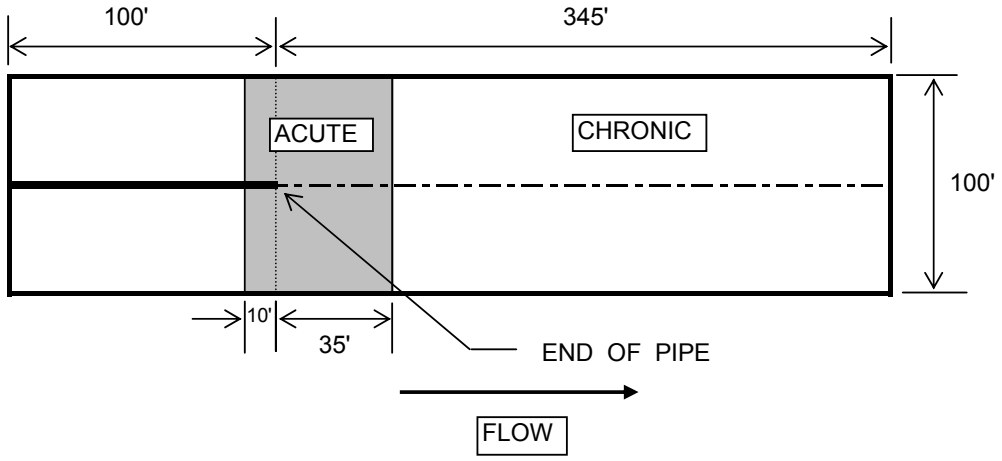
See our response to **A.1.3**, on page 4. Most of the time, the length of the zone in which the discharge meets acute numeric criteria (protective of aquatic life) would be less than 45 feet. Under specified circumstances, the permitted mixing zone could allow an exceedence of the acute numeric criteria, thirty-five feet downstream of the discharge point for a seven-day period, occurring on average once in every 10 years (7Q10, the worst case, critical low flow).

The toxicity of a pollutant depends upon the characteristic of the pollutant, the concentration of the pollutant, and the length of exposure to the pollutant. When EPA derived the numeric criteria, they used the data from four-day tests of a pollutant on several aquatic species. They extrapolated the data to derive a no-effect concentration to 95% of all aquatic species if the length of exposure is less than one hour. Therefore, even though the effluent may exceed numeric criteria for a short distance within the acute mixing zone, the probability of mortality for any organism floating or swimming through the effluent, is very small. This probability was determined by hydraulic dilution modeling (using an EPA-approved computer model.

A.1.14 – *We are concerned that the proposed mixing zone is larger than the currently allowed mixing zone and therefore the proposed permit is in violation of the CWA's anti-backsliding requirement. 33 U.S.C. § 1342(o)(1). Additionally, allowing a larger mixing zone would also be inconsistent with the Washington anti-degradation rules. WAC 173-201A-070.*

Response—

The mixing zone for this permit term is the same as that in the expired permit. The existing mixing zone is depicted as follows:



"In accordance with WAC 173-201A; i.e., the Permittee is authorized to discharge within the mixing zone for Outfall 001, which is defined as follows: (1) the mixing zone shall not extend in the down stream direction for a distance of greater than 345 feet nor extend upstream for a distance over 100 feet from the point of discharge. It shall not be wider than 100 feet, and (2) a zone where acute criteria may be exceeded shall not extend in the downstream direction for a distance greater than 35 feet nor extend in the upstream direction for a distance greater than 10 feet from the point of discharge."

A.1.15 – *The allowance for a 45-foot zone of acute toxicity is entirely inconsistent with the purposes and goals of the CWA, as well as state law, and sets the stage for federal ESA violations. Regardless of EPA's approval for state water quality standards that allow DOE to permit the creation of a zone of acute toxicity in the middle of the Columbia River, the CWA does not allow for this type of exception to the requirement that beneficial uses be protected. Please cite specific statutory authority in the CWA which excuses DOE from protecting the waters within both the acute and chronic mixing zones as the Act otherwise requires.*

Response—

The Clean Water Act omits parameters for mixing zones. Mixing zones are a component of the State's Water Quality Standards, designed and adopted in accordance with the federal Water Quality Act of 1965, Pub.L. No. 89-234, 79 Stat. 903. EPA guidance to those tasked with the design and enforcement of State water quality standards acknowledges the use of mixing zones. The EPA is responsible for approving the State's water quality standards; the federal agency approved Washington's Standards –which incorporate the allowance for a mixing zone.

Ecology evaluated the permit application and assessed the applicant's discharge in the context of the water quality standards published in Chapter 173-201A WAC; the source meets those standards promulgated to protect human health and environment.

A.1.16 – *In considering whether the proposed mixing zone will result in the protection of characteristic uses and ecosystem functions, DOE should consider the cumulative effect of other mixing zones allowed along the Columbia River by both DOE and Oregon DEQ. If DOE looks only at the proposed mixing zone and ignores others, then how can you find that the proposed mixing zone would not substantially interfere with characteristic uses?*

Response—

Ecology agrees that the cumulative effect of other mixing zones along the Columbia River should be considered. The Total Maximum Daily Load (TMDL) process is the appropriate method for evaluating impacts from multiple sources. Both temperature and dioxin are pollutants addressed by TMDL development. (Dioxin waste-load allocations have been assigned to point sources as the national policy for dioxin grew out of the TMDL development. Currently, EPA is completing national guidance -– TMDLs on temperature— but currently no explicit federal policy exists.)

Although Ecology can not wait until the TMDL is completed before issuing permits, the permittee will ultimately achieve the water quality standard by complying with the Waste Load Allocation developed under the TMDL.

A.1.17 - *What is the total area of the Columbia River where water quality standards are not being met as a result of a DOE-approved mixing zone?*

Response—

We are only aware of temperature causing the Columbia River's appearance on the federal 303(d) list. See our response to **A.1.3** on page 4. At times during the critical time of the year, approximately June 15th through September 15th, the entire mixing zone is required; see our responses to **A.1.4** (page 4) and to **A.1.18** (below) for the size. Fort James will ultimately be required to achieve the temperature WLA developed in the TMDL to comply with the water quality standard.

A.1.18 – *How was DOE able to conclude that the acute mixing zone would not adversely affect characteristic and existing uses, such as salmonids? **T**he draft permit does not describe what width the proposed acute mixing zone would be. Without knowing the proposed width of the mixing zone neither DOE, the public, nor expert wildlife agencies could reasonably anticipate the effect that the acute mixing zone would have on migrating salmonids. DOE should re-release the draft permit for public comment after it has identified a width for the acute mixing zone the agency intends to allow in this permit.*

Response—

The width of the chronic and acute mixing zone is 100 feet. The width was historically determined under the provisions of WAC 173-201-100A, Subsections 7(a) and 8(a), during the evaluation of the previous permit cycle (1991). Ecology will clarity this ambiguity by explicitly indicating the width of the acute mixing zone in the proposed permit, as follows:

> "The Permittee is authorized to discharge within the mixing zone for Outfall 001, which is defined as follows: (1) The mixing zone shall not extend in the down stream direction for a distance greater than 345 feet, nor extend upstream for a distance over 100 feet from the point of discharge. It shall not be wider than 100 feet, and (2) a zone where acute criteria may be exceeded shall not extend in the downstream direction for a distance greater than 35 feet nor extend upstream for a distance greater than 10 feet from the point of discharge. The edge of this zone shall be referred to as the acute criteria compliance boundary.
>
> This information was submitted as a requirement of the previous permit and approved by the Department."

For detailed dimensions, please refer to our response to **A.1.14**, on page 8. Ecology expects that no salmonids or other aquatic species will be killed in the acute mixing zone during the various upstream and downstream salmon and steelhead migrations. We base this expectation on the numeric criteria, dilution characteristics, effluent characteristics; on the time of anadromous fish runs, and on results of bioassay tests.

A.1.19 – *Because the proposed mixing zone would include a 45-foot long zone of acute toxicity where water quality standards necessary to protect characteristic uses such as swimming, scuba diving and other water contact recreation, such as fishing, the proposed permit would subject any members of the public that come into contact with the acute mixing zone to unknown risks.*

Response—

Exposure to the mixing zone, while recreating in the Columbia, poses no discrete risk to human health. The numeric water quality criteria may be exceeded within a mixing zone under the rationale that the small size of the mixing zone reduces the exposure period and therefore does not reduce the beneficial uses of the waterbody. The acute numeric criteria for the protection of aquatic life must be met at the boundary of the acute mixing zone; the chronic numeric criteria for the protection of aquatic life must be met at the boundary of the chronic mixing zone. The numeric criteria for the protection of human health must also be met at the boundary of the chronic zone.

We evaluated the pollutants chromium, copper, nickel, zinc, and ammonia for potential to cause harm to aquatic life. We also evaluated chloroform for potential

human health effects (assuming a 70 year exposure). These pollutants met the water quality criteria for protection of life at –-or a short distance downstream from— the discharge point, and well within the mixing zone boundaries.

A.1.20 - *Do DOE and the applicant have any plans to rope off or otherwise mark the 45 foot section of river this permit defines as a toxic mixing zone since it will not meet water quality standards necessary for swimming or water contact recreation? If not, wouldn't the failure to do so be creating a hazard to public health and the safe use of the River?*

Response—

Roping off this section of water –even if it were practical to do so— would serve no public safety purpose, based on the results of numerous bioassay tests. There was no evidence that the discharge would violate the water quality standards when salmonids and other species were used in the tests (in 100% effluent as required by regulations), and they are more vulnerable than humans. The Department of Ecology does has no public safety concerns about water contact recreation related to the elements and compounds detected in the Fort James/Georgia-Pacific effluent.

Our water quality standards allow a mixing zone for this discharge (see the illustration of the Fort James/Georgia-Pacific mixing zone dimensions above). The numeric water quality criteria may be exceeded within a mixing zone under the rationale that the small size of the mixing zone reduces the exposure period and therefore does not reduce the beneficial uses of the waterbody. The acute numeric criteria for the protection of aquatic life must be met at the boundary of the acute mixing zone. The numeric criteria for the protection of human health must be met at the boundary of the chronic zone.

A.1.21 – *The proposed permit contains no effluent monitoring requirements at the edge of either the chronic or acute mixing zones. Without such monitoring requirements DOE and the public lack any reasonable basis for concluding that water quality standards at the edge of the mixing zones will be met. This need is certainly made more pressing by the lack of any comprehensive mixing zone study. If existing computer modeling is adequate, please describe the results of field verification of the accuracy of computer modeling, if any exists.*

Response—

Ecology may require water column sampling and sediment sampling within the mixing zone area if we suspect water quality degradation, but requiring sampling at the boundary of the mixing zone would not be worthwhile. Mixing zones are artificial regulatory constructs designed to limit the area of impact of the pollutants while also allowing the discharger some benefit of the discharge being absorbed and incorporated into the receiving water.

Determining the location of the centerline boundary of a mixing zone is almost impossible in the field. Even in rivers with no tidal influence, the flow is rarely laminar --the direction of downstream flow is constantly changing. For some discharge points the percent flow or percent width is the most stringent limit; there is no actual aerial boundary. Where the distance boundary is limiting, Ecology relies instead upon hydraulic mixing models developed by the EPA to determine the amount of mixing. In some cases we require the permittee to inject a known concentration of dye into the effluent; this dye can be measured at points downstream to verify the model predictions.

As noted before, the design condition for determining mixing is the 10-year 7-day low flow. This means that the design condition occurs once every ten years on the average. We cannot anticipate and schedule sampling at such widely-spaced events.

A.1.22 – *We are concerned that the computer modeling relied on for the issuance of this permit underestimates the potential effects of the applicant's discharges. Dilution, for example, may be lower in increased current as the time to cover the 350-foot mixing zone decreases*.

Response—

Dilution zone modeling was done at worse case – evaluating the effects of the highest effluent flow during the lowest flow of the river.

A.1.23 – *The mixing zone for this proposed permit is not appropriate because the Columbia River is water quality limited for multiple pollutants. As a result, water quality standards at the outside of the mixing zone would not be met and the fundamental purpose of a mixing zone would be violated. In recent comments on a state of California-issued NPDES permit, EPA Region IX discussed the problem of using mixing zones in water-quality limited waterbodies: "EPA believes that if a waterbody is listed as impaired, and that listing is based on exceedences of water column criteria, a zone of mixing is inappropriate." Letter from Alexis Strauss, Director Water Division, EPA Region IX, to Lawrence Kolb, Assistant Executive Director, California Regional Water Quality Control Board, at 6, fn 2,. November 12, 1999. The letter goes on to state "[t]herefore, if impairment is based on reliable data that indicates exceedences in the waterbody of a numeric water quality objective, then the mixing zone equation is clearly not appropriate." (emphasis added). The EPA also said that mixing zones are not appropriate in water quality limited streams in the context of heat discharges. As a part of EPA's NPDES permit for the Potlatch paper plant in Idaho, EPA wrote, "…when the upstream water exceeds the criteria [for temperature], there is no 'cool' water to dilute temperature of the discharge. This means that, regardless of dilution, the water at the edge of the mixing zone will never meet the criteria. Therefore, if no TMDL has been done, the permit limits must ensure that water quality standards are met at the point of discharge."*

Response—

There is no specific statutory authority for mixing zones in the federal Clean Water Act. Mixing zones are a component of the State's Water Quality Standards, promulgated in accordance with the federal Water Quality Act of 1965, Pub.L. No. 89-234, 79 Stat. 903. EPA guidance to those responsible for designing, publishing, and enforcing State water quality standards acknowledges the use of mixing zones. The EPA is responsible for evaluating and approving States' water quality standards; EPA approved Washington's Standards, which incorporate the allowance for a mixing zone.

Development of the State's Water Quality Standards, Chapter 173-201A WAC, is an on-going process of balancing restrictions and preserving beneficial uses of the State's waters, consistent with direction of the federal Clean Water Act. This permit, which includes authorization of a mixing zone, conforms to the State's Water Quality Standards and agency policy for implementing that regulation.

A.2 – Effluent Temperature

A.2.1 – *While the decline of salmon and the poor health of the Columbia River ecosystem result from many complex causes, with this draft permit DOE is passing on an opportunity to require changes that could lead to important water quality benefits. If DOE lacks basic information about existing conditions in the Columbia River, how can you establish effluent limits or reasonably conclude that the proposed permit would protect beneficial uses and meet water quality standards? An assertion that the lack of data about temperature conditions in the applicant's "chronic dilution zone boundary" somehow prevents DOE from determining whether this segment of the Columbia River is water quality limited begs credibility.*

Response—

Ecology's criteria for including stream segments on the 303(d) list apply to the segment within the boundaries of the township where the sampling station that caused the listing is located. When we wrote the fact sheet we believed that the river was not listed for the segment where Fort James discharges. In a meeting with the commenter, however, he referenced a letter from Ecology to EPA Region 10 stating that the entire river was impaired for temperature. This letter, signed by Megan White (Water Quality Program Manager) and addressed to Charles Findley (Acting EPA Region 10 Administrator), was dated September 4, 2001 and included the following statement:

> "Finally, I would like to clarify that the temperature TMDLs should address the entire length of the mainstream Columbia and Snake Rivers within Washington. Our latest 303(d) list from 1998 has 29 listed segments on these rivers. Data is also available that indicates at least 14 additional segments had violations of the temperature standards at various times but lacked sufficient data or documentation for listing in 1998. These 43 segments are scattered throughout the river system. Much additional data has been collected over the past three years by various entities showing additional violations of the standards. We believe that a reasonable interpretation of the existing listings and currently available data would show that much of or all the mainstream Columbia and Snake Rivers violate water quality standards for temperature at various times during the year. Therefore it would be prudent and reasonable to model and develop TMDLs for the entire mainstem of these rivers. This approach would be consistent with Washington's approach to other river basins where we are developing temperature TMDLs."

Until either the EPA or Ecology develops temperature TMDLs for the entire river, or specifically for the segment that includes the Camas Mill's outfall, the terms of this permit are as protective as the law allows.

A.2.2 – *Is the Columbia River upstream of the applicant's discharges water-quality limited for temperature? Is the Columbia River downstream of the applicant's discharges water-quality limited for temperature?*

Response—

Yes, the Columbia River upstream of the Fort James effluent is water quality limited for temperature. And the Columbia River downstream of the Fort James effluent is water quality limited for temperature.

A.2.3 - *Does DOE have any studies or documents suggesting that during the critical period the Columbia River is not in violation of state water-quality standards?*

Response—

No.

A.2.4 - *Does DOE have any data or studies that suggest that the Columbia River would somehow cool from the temperatures at Bonneville Dam where the River consistently exceeds water-quality standards for temperature?*

Response—

No.

A.2.5 - *The permit fact sheet states that the applicant assumed maximum receiving water temperatures of 20.5 ºC in modeling the effect of the proposed discharges. FS at 18. Where was this value obtained? On what grounds can DOE conclude that the modeling used accurately reflects the likely effects of the applicant's discharge on the receiving waters s?*

Response—

The receiving water temperatures employed in the modeling were obtained from the following sources: Miles, M. B., et al, "Water Resources Data – Washington, Water Years 1988, 1989, 1990, and 1991. U. S. Geological Survey Data Reports WA-88-1, WA-89-1, WA-90-1, and WA-91-1; and Young, S. R., "Columbia River Survey 1990", internal memorandum, James River Corporation, Camas, WA, February 1, 1991.

A.2.6 – *DOE's requirement that the applicant prepare a temperature study during the next two years does not substitute for the fact that such a study should have already been prepared in advance of the instant permit.*

Response—

During the formation of the draft permit, it was our opinion that the river was not listed for the segment where Fort James discharges. This is based on the current Ecology criteria for including stream segments in the 303(d) list. The criteria list the segment only for the boundaries of the township where the sampling station that caused the listing is located. In a meeting the commenter referred to a letter from the Department of Ecology to EPA Region 10 stating that the entire river was impaired for temperature. This letter, signed by Megan White (Water Quality Program Manager) and addressed to Charles Findley (Acting EPA Region 10 Administrator), was dated September 4, 2001. The temperature study is included in this proposed permit in acknowledgement of federal and state work to develop TMDLs for the Columbia.

A.2.7 – *The proposed permit would violate state and federal law because it fails to provide an effluent limitation for temperature. Absent an effluent limitation for temperature there is no basis for finding that the proposed discharges would protect existing or designated beneficial uses, meet numeric water quality standards, or meet the state and federal anti-degradation and anti-backsliding requirements.*

Response—

Water quality standards limit temperature in two ways. Each classification has an upper limit and a maximum allowable rise. In this case the receiving water is class A fresh water (WAC 173-201A-130 (20)) and the maximum allowable river water temperature is 20.0ºC. When natural conditions exceed 20.0ºC, the allowable temperature rise is limited to 0.3ºC due to any single source or 1.1ºC due to all such activities combined. Since all the reaches of the Columbia River are considered impaired for temperature, EPA initiated the TMDL for waters within the States of Washington and Oregon. One of the first determinations was that "The effects of point

sources and tributaries (non-point sources) on cross sectional average water temperatures in the main stems are for the most part quite small. The point sources can cause temperature plumes in the near-field but they do not result in measurable increases to the cross-sectional average temperature of the main stems. That is, the cumulative impact of all point sources is less than 0.14°C when temperature standards are exceeded in the river," (from the Columbia/Snake Rivers Preliminary Draft Temperature TMDL, pg. vi, 9/13/2002.) It is therefore important that temperature impacts from all the point sources be considered and addressed in a consistent way.

According to the Fort James mixing zone study Outfall 001 temperature is well within the 0.3°C at the edge of the chronic dilution zone during the time when the river exceeds the 20°C standard. Therefore, this permit needs no effluent limitation for temperature. Ecology will assign a heat load limit, based on the Waste Load Allocation (WLA), after the TMDL is final. The permit still requires a three part study: Fort James must monitor temperature in the Columbia River upstream and down stream from Outfall 001. Fort James must be at AKART for temperature. And the permit requires the mill to conduct an engineering study to evaluate availability and cost of technologies to reduce the temperature of the effluent during the critical period. This information will be used to determine whether the facility is at AKART for temperature. EPA is developing national guidance on the temperature issue, but currently no explicit policy exists that can be applied to the Fort James permit. Fort James will ultimately be required to perform within the WLA assigned by the TMDL to comply with the water quality standard.

A.2.8 – *The proposed permit ignores both the fact that the Columbia River is water quality limited for temperature and that the applicant discharges upwards of 50 million gallons of heated wastewater each day into the Columbia River. The applicant's discharges will violate state water quality standards for temperature at the end of the pipe. Didn't DOE identify a mixing zone prior to making a reasonable potential analysis for temperature? By allowing for a 345 foot mixing zone, Ecology guaranteed that under its own reasonable potential analysis no effluent limitation would be required for temperature.*

Response—

The EPA determined that "The effects of point sources and tributaries on cross sectional average water temperatures in the main stems are …quite small. The point sources can cause temperature plumes in the near-field but they do not result in measurable increases to the cross-sectional average temperature of the main stems. …The cumulative impact of all point sources is less than 0.14°C when temperature standards are exceeded in the river."

The dilution that occurs after discharge from a diffuser is logarithmic so the effluent is approaching ambient temperatures (2° C difference) in a distance of 2 to 3 meters (10 feet).

The mixing zone is based on the location and configuration of the discharge; according to state rule WAC 173-201A-100, the mixing zone must be predetermined for use in the reasonable potential analysis.

A.2.9 – *How many BTU's of heat would the applicant's discharges put into the Columbia River on a daily basis? Wouldn't adding BTU's into the Columbia River, cause the applicants to*

contribute to exceedences of water quality standards for temperature either downstream or in the area of the applicant's discharge?

Response—

The Columbia/Snake Rivers Preliminary Draft Temperature TMDL has a proposed WLA of 337.8 mega watts (equivalent to 1.153 x 10^9 BTU/hr.) Based on past and present mill performance, the BTUs discharged by the mill to the Columbia River are within water quality standards for temperature outside of the mixing zone allowed under WAC 173-201A-100. The TMDL document indicates that the effect of point sources on water temperature is very small and that the point sources themselves do not lead to exceedences of water quality standards when averaged in with the total flow of the river.

EPA is developing national guidance on the temperature issue, but currently no explicit policy exists. The Fort James mill will ultimately be required to achieve the WLA developed by the TMDL, in order to comply with the water quality standard. Heat load limits will likely be imposed then on point sources located on the lower Columbia River, at which time Ecology will incorporate the limit by reopening the existing permit. This permit therefore incorporates the following anticipatory language: "The Department will open and modify this permit within one year of the issuance of a final Columbia/Snake Rivers temperature TMDL to include the waste load allocation for heat load as a limit, with appropriate monitoring and reporting requirements."

A.2.10 – *40 CFR 122.44(d)(1)(i) describes the federal requirements for identifying which pollutants require an effluent limitation. Regardless of whether DOE prepares its reasonable potential analysis for the edge of the mixing zone or for the end of the pipe, the addition of significant BTUs into the Columbia at the very least has the reasonable potential to "contribute" to an excursion above state temperature standards. Note that 40 CFR 122.44(d)(1)(i) does not require that DOE have clear proof that the discharges will cause or contribute to an excursion – only that there is a "reasonable potential" to do so.*

Response—

Ecology acknowledges your comment.

A.2.11 – *Please explain on what scientific basis DOE can be certain that applicant's discharges <u>could not</u> contribute to an exceedence of water quality standards?*

Response—

It's based on past and present mill performance. See our response to **A.2.9**, above.

A.2.12 – *How does DOE's analysis of the applicant's heat discharges actually support that the applicant's discharges do not have a "reasonable potential" to cause or contribute to a water quality violation. Page 17 of the permit fact sheet, states that the temperature standard for the Columbia River is "20^o C maximum or incremental increases no greater than 0.3^o C above ambient." WAC 173-201A-030(2)(c)(iv), however, states that "[t]emperature shall not exceed 18.0°C (freshwater) or 16.0°C (marine water) due to human activities. When natural conditions exceed 18.0°C (freshwater) and 16.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C." DOE raised the standard to 20 ºC on the Columbia despite scientific evidence that warned against it (salmonids require substantially lower temperatures, as recognized by EPA, NMFS and experts*

in numerous other agencies). "A Review and Synthesis of Effects of Alterations to the Water Temperature Regime on Freshwater Life Stages of Salmonids, with Special Reference to Chinook Salmon," provides compelling evidence that the overwhelming body of scientific information does not support that salmonids will be protected at 20 °C. Dale A. McCullough, PhD., February 22, 1999 EPA 910-R-99-010. On what scientific basis does DOE believe that a 20 ° C temperature standard would be protective of salmonid migration, rearing and spawning?

Response—

Page 17 of the permit fact sheet states that the temperature standard for the Columbia River is "20° C maximum or incremental increases no greater than 0.3° C above ambient." This statement is consistent with WAC 173-201A-130, which was designed and adopted in 1972 to consider the existing river conditions.

A.2.13 – ***T****he proposed permit would require temperature monitoring to be reported in Fahrenheit [FS at 21]. Washington water quality standards are recorded in Celsius and so should be the reporting requirements.*

Response—

Ecology will revise the permit and require that temperature be reported in Celsius.

A.3 – Water Quality

A.3.1 – *DOE lacks the data which is necessary to find that the proposed permit will meet applicable state and federal law – current and comprehensive information about water quality conditions in either the receiving waterbody or the applicant's effluent. Yet the proposed permit [FS at 18] reads, "the derivation of surface water quality based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water."*

Response—

Our basis is the permittee's compliance with State water quality criteria. Ecology evaluated the effluent characteristics for regulated pollutants. See the more detailed explanation presented in our response to **A.3.2**, below.

A.3.2 - *Section S.9 of the proposed permit requires the applicant to collect background concentrations of toxics near the point of discharge. [FS at 19] Does DOE currently lack such information? Does DOE not know whether the area around the point of discharge is actually in compliance with existing water quality standards for toxics?*

Response—

Ecology reviewed the data submitted in the 1999 NPDES permit application and discovered that a few pollutants were detected in the 100% effluent concentration. The pollutants detected meet the water quality standards at the end of pipe with the exception of ammonia, which meets the water quality criteria well before the edge of the acute mixing zone boundary. For example, we performed a reasonable potential analysis on chromium, which showed discharge levels of 3.31 and 0.72 parts per billion (the acute and chronic standards for chromium are 15 and 10 parts per billion, respectively). This analysis assumes a chromium background concentration of 0 parts per billion. Although the pollutant levels are below the standard limits, additional chromium background data will assure a more accurate reasonable potential analysis. Therefore, per Condition S.9, "Receiving Water Study" of the proposed permit, the

permittee is required to collect data of specific pollutants near the point of discharge, which are tabulated below.

POLLUTANT PARAMETER	DETECTION LIMIT REQUIRED
Chromium	1.0 µg/L
Copper	1.0 µg/L
Lead	1.0 µg/L
Total Zinc	4.0 µg/L
Ammonia (as N)	0.01 mg/L

A.3.3 – *The fact sheet DOE prepared for the proposed permit lacks any mention of the sensitive, threatened or endangered species that reside in and around the applicant's outfalls. Has the applicant prepared any comprehensive studies on the aquatic and terrestrial species that would be affected by the proposed mixing zone and initial dilution area?*

Response—
Bioassay tests performed on the discharge since 1991, as required per Chapter 173-205 WAC, revealed no reason to believe that the discharge would violate water quality standards. Ecology required that the bioassay tests be conducted by a certified laboratory to several species, including the fathead minnow, daphnia magna, and rainbow trout in 100% effluent concentration (no dilution), sampled at the Outfall 001. The tests were conducted in accordance with the US EPA testing protocol EPA/600/4-90/027F. The results consistently indicated that the discharge exhibited no toxicity and had little-to-no adverse impact on the fish or organisms tested.

A.3.4 – *The proposed permit would not ensure the protection of salmonid spawning, rearing, or migration from the Camas Mill's discharges. Nor would the permit protect human activities such as swimming and other primary water contact recreation.*

Response—

See our responses to **A.1.1** beginning on page 3, and below at **A.3.5**. The mill's permitted discharges should have no effect on migrating adult salmonids, although perhaps avoidance reaction by juvenile salmonids. We base our expectation on the numeric criteria, dilution characteristics, effluent characteristics; and on the time of anadromous fish runs, and on bioassay tests.

Since salmonids are a more vulnerable species than are humans, we expect no human health impacts from engaging in primary water contact recreation in the area.

A.3.5 – *How would the turbidity, heat, toxics, BOD, and TSS from the applicant's discharges affect salmonid during each of their life stages? Did DOE conduct any analysis of these effects and if so where is this analysis contained?*

Response—

Yes. Numerous salmonid tests (referred to as Whole Effluent Toxicity tests) were performed on the most sensitive species –-through their life stages—in the applicant's

effluent. At each stage the tested effluent ranged from various dilutions to a 100% concentration, and the species tested exhibited no signs of significant toxicity. The tests addressed the effluent effect of turbidity, toxics, BOD, and TSS to these species.

Regarding heat, the EPA is developing national guidance on the issue; Fort James will ultimately be required to achieve the Waste Load Allocation limit that the EPA develops for the Columbia/Snake Rivers Temperature TMDL. Ecology will implement WLAs consistent with the requirements of the TMDL, after it is final, by reopening this permit.

A.3a – Turbidity

A.3a.1 – *The proposed permit would not contain any limit on turbidity. Turbidity standards will be violated at the end of the applicant's outfall pipe; and the facility's discharges would not meet water quality standards for turbidity. Additionally, salmonids and other species negatively affected by turbid waters would be adversely affected. What is the maximum turbidity level in the applicant's discharge at the outfall? What is the background turbidity level in the Columbia River during the low flow and high flow times of the year?*

Response—

Ecology has not required turbidity measurement of the Fort James effluent for several permit cycles because it ceased to be an issue after the addition of primary and secondary treatment. Ecology did obtain some turbidity measurements to respond to this question. Apparent turbidity in the effluent is primarily due to the color of the effluent. The EPA proposed BAT color limitations for the Bleached Papergrade Kraft and Soda subcategory. The EPA accepted commenters' assertions that color is a concern that is more appropriately addressed in individual permits, based on applicable water quality standards, and did not impose color limitations.

Two water quality criteria in Chapter 173-201A WAC are sometimes thought of as color-related: The first is the turbidity standard. Turbidity is measured by nephelometric turbidity units (NTU); NTUs are a measure of the light scattered by suspended material in the water, and are not influenced by color; thus, a color limit would not be addressed by limiting or monitoring turbidity. The second is a narrative aesthetic standard—which is influenced by color—but it is subjective and difficult to control with a numerical limit. Ecology lacks both available data to determine appropriate limits, and a measurement method not subject to the range of possible color variations, that could protect the aesthetic standards. The Permit, therefore, omits a color limit.

A.3a.2 – *What is the maximum turbidity level in the applicant's discharges at each of the outfalls? What are the Columbia River's background turbidity levels during low flow and high flow times of the year?*

Response—

The maximum turbidity we have measured in the applicant's 001 discharge is 50 NTU. The data supplied by Fort James averaged 14 NTU for outfall 001 and 5 NTU for outfall 002. The Columbia River turbidity seems to vary from 2 NTU to 5 NTU.

A.3a.3 – *On what grounds did DOE conclude that turbidity limits were not required?*

Response—

Turbidity is not a parameter generally considered in point source discharges except for water treatment back flush wastewater. Control of particulates as total suspended solids in an effluent usually results in low turbidity. Since particulates that go through the wastewater treatment facilities at pulp mills are of sufficient size to be captured on the filter media used in the TSS test method, little turbidity is expected in the treated water. Although turbidity does not necessarily have a linear response to dilution, the sample measuring 50 NTU was diluted with Columbia River water to determine what mix was required to reach background. The Columbia River water upstream of the effluent was 2.7 NTU, and a dilution of 10% effluent and 90% Columbia River water resulted in a turbidity of 6.5 NTU, well before the acute mixing zone boundary.

A.3a.4 – *Would the applicant's discharges have a reasonable potential to cause a violation of the turbidity standard? If not, why not?*

Response—

No, the 50 NTU value would not have a reasonable potential to exceed water quality standards at the edge of the acute mixing zone based on the dilution series mentioned in response to A.3a.3 (immediately above). Given the applicant's extensive TSS control and monitoring, the addition of a limit and monitoring requirements for turbidity would serve no purpose.

A.3b – Dioxin

A.3b.1 – *The proposed effluent limit for Dioxin (2,3,7,8-TCDD) only includes a daily maximum level. As currently drafted, the permit allows Fort James to maintain its current dioxin discharges; this is inconsistent with the fundamental goal of the CWA…Neither the fact sheet nor permit mention the fact that the Columbia is water quality limited for dioxin (2,3,7,8-TCDD) nor do they mention the dioxin load allocated to the Fort James facility in the dioxin TMDL.*

Response—

Ecology revised the fact sheet to address "water quality limited for dioxin" and the waste load allocations to Fort James. The primary source of dioxins and furans is the bleach plant; the proposed permit has bleach plant dioxin/furan limitations that are more restrictive that the WLA at the final effluent. The revised fact sheet will read:

> On June 9, 1989, Ecology listed Fort James, formerly James River II, Inc., and seven other pulp mills as violating water quality standards for dioxin 2,3,7,8 TCDD pursuant to Section 304(1) of the Clean Water Act. The Act required that an Individual Control Strategy be issued to each discharger contributing to such violation, and that the violation be corrected within three years of Individual Control Strategy issuance. EPA Region X issued public notice on June 15, 1990 of the Proposed Establishment of a TMDL to Limit Discharges of Dioxin to the Columbia River. EPA acted since the Columbia River contained amounts of dioxin which exceed applicable water quality standards. To meet the water quality standard, EPA determined that a daily maximum of 1.31 mg/day should be allocated to the Fort James Camas mill. The limit is low enough that dioxin will be below the detection limit in the final effluent (10 ppq), and thus the sampling will be conducted at the bleach plant discharge. EPA estimated there would be an overall 95% reduction in dioxin discharges from the Columbia River basin bleached pulp mills.

A.3b.2 – *What is the dioxin load that was allocated to the Fort James facility as a result of the dioxin TMDL? Are the proposed dioxin limits consistent with this load? If not, why not?*

Response—

The daily dioxin limit allocated to Fort James under the TMDL determination is 1.31 mg/day –the same dioxin waste load as the current permit.

A.3b.3 – *The proposed permit only requires monthly, weekly, or semiannual monitoring for TCDD, TCDF, Chloroform, Trichlorosyringol, 3,4,5-trichlorocatechol, 3,4,6-trichloro-catechol, 3,4,5-trichloroguaiacol, 3,4,6-trichloroguaiacol, 4,5,6-trichloroguaiacol, 2,4,5-trichlorophenol, 3,4,6-trichlorophenol, Tetrachlorocatechol, Tetrachloroguaiacol, 2,3,4,6-tetrachlorophenol, Pentachlorophenol, 2,3,7,8-TCDF, and 2,3,7,8-TCDD. This level of monitoring is too infrequent to reasonably ensure the public and DOE that the applicant's discharges are not causing a violation of water quality standards.*

Response—

This monitoring frequency is prescribed under the Pulp and Paper regulation. The EPA published effluent guidelines, including compliance monitoring of the Pulp, Paper, and Paperboard Point Source, in 40 CFR Part 430 for the stated pollutants, TCDD, TCDF, Chloroform, Trichloro-syringol, 3,4,5-trichlorocatechol, 3,4,6-trichloro-catechol, 3,4,5-trichloroguaiacol, 3,4,6-trichloroguaiacol, 4,5,6-trichloroguaiacol, 2,4,5-trichloro-phenol, 3,4,6-trichlorophenol, Tetrachlorocatechol, Tetrachloro-guaiacol, 2,3,4,6-tetrachlorophenol, Pentachlorophenol, 2,3,7,8-TCDF, and 2,3,7,8-TCDD. This regulation evolved with public input and comments.

A.3b.4 – *The proposed dioxin standards would not actually set a total maximum daily limit for total dioxin discharges. Condition (e) on page 10 of the draft permit states that although the permit would appear to require a daily dioxin limit of 1.31 mg/day this standard could essentially be met by showing that 2,3,7,8 TCDD concentrations were at or below 10 ppq. On what grounds could a concentration based dioxin sample ensure that no more than 1.31 mg/day of dioxin (2,3,7,8 TCDD) are released in the applicant's discharges?*

Response—

The final effluent limit is a mass-based limit, but since the WLA of 1.31 mg/day is so close to the minimum level (or what we were using as the practical quantitation limit (PQL) in the previous permit), a means of determining compliance when below this level is included. The practical quantitation limit is the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. This limit sets a quantitation level that the facility must meet. Limits that are at or below a PQL must have a detection level and a means for determining compliance when a result is below that level.

In the case of Fort James' outfall 001 discharge of 40 million gallons per day (MGD) flow and 10 ppq TCDD, the resulting 1.51 mg/day TCDD clearly exceeds the limit. At 40 MGD flow and 9 ppq TCDD there would be 1.36 mg/day TCDD, essentially equivalent to the limit. At 35 MGD and 10 ppq TCDD the mass discharges would be 1.33 mg/day. More frequently, TCDD was not detected at between 2 and 3 ppq. Since 1995 the highest TCDD result reported was <5.2 ppq (that is TCDD was not detected at a detection limit of 5.2 ppq), --and this was before the facility converted to 100% substitution of chlorine dioxide. This limit ensures that the facility does not release more than 1.31 mg/day of TCDD at outfall 001.

A.3c –Dissolved Oxygen

A.3c.1 – *What data does DOE have regarding DO levels in the mixing zone and downstream? Are DO standards being violated?*

Response—

Data contained in our 303(d) list showed that Dissolved Oxygen levels meet water quality standards in the vicinity of the Fort James' discharge. This result agrees with the in-situ Columbia River data survey conducted from 1989 to 1991. The data were collected during the time when the Magnefite Pulping process was still in operation (at higher BOD loadings than currently exist). This pulping process was permanently shut down; DO levels are now less than those measured prior to the Magnefite operation's termination.

A.3c.2 – *Is the Columbia water quality limited for DO or any other pollutant?*

Response—

Yes, the Columbia River is water quality limited for dissolved oxygen and those other pollutants discussed in detail below. Section 303(d) of the federal CWA requires Washington State to prepare a list of all surface waters that are impaired by pollutants. These are water quality limited estuaries, lakes, and streams that fall short of state surface water quality standards. The waters placed on the 303(d) list require the preparation of TMDLs, a key tool in the work of water clean up. And even before a TMDL is completed, the water's inclusion on the 303(d) list can reduce pollution limits in permits issued by Ecology. This permit has significantly reduced Conventional pollutant limits; they are listed in the table below.

Ecology published the "Final 1998 Section 303(d) list" and "Waterbody/Pollutant Addition" to inform the public of all pollutants that fall short of the standards. The EPA did not require our state to submit a 303(d) in 2000. Ecology is now compiling water quality data for the 2002 303(d) assessment. The information is available on the Ecology internet site: www.ecy.wa.gov/programs/WQ/303d/

A.3c.3 – *As a result of what study or analysis does DOE believe that the proposed permit will not cause or contribute to violations of state water quality standards for dissolved oxygen?*

Response—

See our response to **A.3d.1**, immediately below.

A.3d – Biological Oxygen Demand and Total Suspended Solids

A.3d.1 – *The permit's BOD and TSS limits are only technology based; would water quality-based limits mandate stricter effluent limits? Did Ecology calculate the water quality based limits for BOD and TSS? What would the water quality based limits be?*

Response—

The EPA prescribed BOD and TSS requirements by regulation and effluent guidelines for the Pulp, Paper, and Paperboard Point Source, (40 CFR Part 430 for the cited pollutants). Ecology derived BOD and TSS limits in this permit, using technology-based effluent limitations guidelines and standards on conventional pollutants, as required by the regulation. In response to commenter's concern, Ecology evaluated the BOD impacts from the discharge to the receiving water using the model for predicting dissolved oxygen deficit from BOD in the Streeter-Phelps equation. The impact of BOD is determined at the critical condition. The critical

condition (design flow) for flowing freshwater is usually the 7-day low flow with a recurrence interval of 10 years (7Q10), which ensures the highest BOD loading from the discharge and the lowest receiving water flow.

We used this model to determine a reasonable potential for violation of the dissolved oxygen criteria. The model indicates that the discharge is well within the dissolved oxygen criteria in the receiving water. This result agrees with the in-situ Columbia River survey data conducted 1989 to 1991. Since then, the Magnefite Pulping process (at higher BOD loadings) was permanently shut down; the reasonable potential would be even less under the mill's current operation.

We have no current accepted methodology for calculating a water quality based limit for TSS. For TSS effect, please refer to our response to A.3.5, on page 19.

A.3d.2 – *Because the proposed permit includes a mixing zone, BOD and TSS limits should have been based on the application of AKART, including any measures that could achieve NSPS standards because application of such standards would result in important reductions in BOD and TSS removal.*

Response—

The proposed permit includes BOD and TSS limits that are significantly lower that the current permit allows. With the proposed permit the following BOD and TSS reductions will be realized. See our response to **A.5.2**, on page 30.

POLLUTANTS	CURRENT LIMITS, LBS/DAY	PROPOSED LIMITS, LBS/DAY	PERCENT REDUCTION
BOD			
Monthly Average	29250	14633	50%
Daily Maximum	56000	28031	
TSS			
Monthly Average	47250	29927	36%
Daily Maximum	88300	56019	

A.3e – Sediment

A.3e.1 – *We are concerned that comprehensive sediment samples were not obtained either within the applicant's mixing zone or downstream from the mixing zone, where heavy metals and other pollutants may settle as a result of the applicant's discharges. Did the applicant or DOE prepare or possess any samples that describe existing sediment conditions in the area of the applicant's outfalls? If not, does DOE have any data on sediment toxicity in the area downstream of the applicant's discharges?*

Response—

Sediment studies near Outfall 001 were completed in 1988, 1989, and 1990. A sediment study near Outfall 002 was completed in 1998. In all cases the results indicated compliance with Washington's marine sediment standards (Chapter 173-204 WAC). Fresh water sediment standards have not been developed.

A.3f – Numeric Health-Based Criteria

A.3f.1 – *DOE is required to consider 91 numeric health-based criteria in NPDES permits. DOE states that a reasonable potential analysis was performed pursuant to 40 CFR 122.44(d), but that none of these pollutants had a reasonable potential to violate water quality standards. DOE did not consider whether discharge of these toxics has a reasonable potential to violate water quality standards where the applicant's discharges meet the river. Instead DOE asked whether the discharges would have a reasonable potential to cause or contribute to a water quality violation more than 350 feet downstream from where the discharges enter the river—outside of the proposed mixing zone. If DOE evaluated the potential for the applicant's discharges to violate water quality standards at the end of outfall 001 instead of at the edge of the proposed mixing zone, for what toxic pollutants would effluent limits be required?*

Response—

Our water quality standards allow and we have authorized a mixing zone for this discharge. The numeric water quality criteria may be exceeded within a mixing zone under the rationale that the small size of the mixing zone reduces the exposure period and therefore does not reduce the beneficial uses of the waterbody. The acute numeric criteria for the protection of aquatic life must be met at the boundary of the acute mixing zone. The chronic numeric criteria for the protection of aquatic life must be met at the boundary of the chronic mixing zone. The numeric criteria for the protection of human health must be met at the boundary of the chronic zone.

Chapter 173-205 WAC requires whole effluent toxicity testing to determine whether the effluent would carry toxicity not anticipated by the numerical standards. Based on the results of bioassay testing (WET tests) performed on the discharge since 1991, we see no evidence that the discharge would have toxic effects. Ecology required that the bioassay testing be conducted by a certified laboratory, on the several species -– including fathead minnow, daphnia magna, rainbow trout in 100% effluent concentration (no dilution)— sampled at Outfall 001. The test was conducted in accordance with US EPA testing protocol EPA/600/4-90/027F. The results consistently indicated that the discharge exhibited no toxicity and have little to no impact on the fish or organisms being tested.

In summary, neither numeric criteria nor WET tests showed pollutants that would need effluent limits unless background plus effluent concentrations exceed water quality standards. See the proposed permit for background concentrations requirements.

A.3f.2 – *Is the purpose of assessing the impacts of the applicant's discharges on human health and aquatic species to determine whether there will be adverse effects on humans and aquatic species as a result of toxics in the applicant's discharges?*

Response—

Yes. Also see our response to **A.3f.1**, immediately above.

A.3f.3 – *Does DOE say that humans <u>could</u> use the areas defined by the proposed permit as acute and chronic mixing zones, for water contact activities such as swimming, scuba diving, windsurfing, fishing or scientific study?*

Response—

Yes, humans could use the areas defined as the acute and chronic mixing zones. Fathead minnows, daphnia magna, and rainbow trout were sampled at Outfall 001 and tested according to EPA testing protocol EPA/600/4-90/027F. The results consistently indicated that the discharge exhibits no toxicity and has little-to-no impact on the most sensitive fish or organisms tested.

A.3f.4 – *Columbia Riverkeeper, Oregon Wildlife Federation and the Northwest Environmental Defense Center are considering hosting a swim, dive and fish event in the area of the applicant's outfall 001 in the near future. Would DOE give any recommendation against this to members of the public considering taking part in this event?*

Response—

No. See our responses to **A.1.3** on page 4, and to **A.3f.3**, above.

A.3g – pH

A.3g.1 – The proposed permit appears to allow effluent limits that would exceed the currently allowed pH range of 6.0 to 9.5, and would not protect characteristic uses. This appears to be less stringent than the current permit and therefore a violation of federal anti-backsliding requirements under 40 CFR § 122.44(l) and state anti-backsliding policy, WAC 173-201A-070.

Response—

The previous permit imposed a pH limit of 5.0 to 8.5. This pH limit will be revised to the range of 6.0 to 8.5 in the proposed permit. Ecology will revise the permit to read as follows:

Parameter	Effluent Limitations: Outfall 001	
	Monthly Average [a]	Daily Maximum [b]
Biological Oxygen Demand (BOD_5), lbs/day	14,633	28,031
Total Suspended Solids (TSS), lbs/day	29,927	56,019
pH [c]	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 8.5	
Adsorbable Organic Halides (AOX) [d], lbs/day	1,401	2,138
2,3,7,8-TCDD[e], mg/day	NA	1.31
Temperature[f]	NA	NA

A.3h – Water Body Classifications

A.3h.1 – *The draft permit and fact sheet lack any information about the water quality and relevant water quality standards of the receiving waters for the applicant's discharges at Outfalls 002 and 003. It is our belief that the Washougal River is a Class AA water and the Camas Slough a Class A water and should be managed accordingly. What are the conditions of the waters that Outfalls 002 and 003 would discharge into? Are these waters meeting water quality standards? What data support these findings?*

Response—

Outfall 002 discharges to Blue Creek, which then goes into Camas Slough. Outfall 003 discharges directly to the Washougal River. The original application included chemical data for these discharge outfalls; we evaluated them for a reasonable potential to exceed water quality standards. Additional data for Outfalls 002 and 003 were submitted by Fort James in November 1999. The most recent effluent data was submitted to Ecology in June 2002, after closure of the sulfite mill. These data were also evaluated for a reasonable potential to exceed water quality standards, using the criteria for the receiving waters classifications; all the evaluations indicate that both discharges meet the water quality standards of Chapter 173-201A WAC.

See our response to **A.3h.2**, below, for more information about Outfall 003.

A.3h.2 – *What are water quality conditions like in the Camas Slough and the Washougal River? What water quality standards apply to discharges to them? What are the characteristics of the effluent from Outfalls 002 and 003? How do you know that these discharges comply with applicable water quality standards?*

Response—

Both are Class A surface freshwater rivers, for purposes of water quality. The original application included chemical data for these discharge outfalls which were evaluated for a reasonable potential in light of the water quality standards for the class. Additional data for Outfalls 002 and 003 were submitted by Fort James in November 1999, and the most recent effluent data submitted to Ecology in June 2002 (after the closure of the sulfite mill). These data were also evaluated for a reasonable potential to exceed water quality standards. All the evaluations indicate that both discharges meet the water quality standards of Chapter 173-201A WAC.

Outfall 003 discharges directly to the Washougal River, but that outfall will be eliminated in November 2003. Ecology had set up Water Quality Monitoring Stations on the Washougal River to collect data on various conventional parameters (such as ammonia, fecal coliform, nitrite and nitrate, oxygen, pH, suspended solids, etc.) for water quality assessment purposes. Data collected in 1970, 1992, and 2000 indicate that the conventional pollutants were within water quality standards. Further, the final 1998 Section 303(d) List omits the Washougal River for any parameters.

Outfall 002 discharges to Blue Creek which then goes into Camas Slough. Because the Camas Slough is part of the Columbia River, we believe it has water quality characteristics similar to that of the Columbia. During low flow, however, the Camas Slough receives its water predominantly from the Washougal River; therefore, its characteristics are similar to the Washougal during this low flow.

A.3.i – Anti-degradation

A.3i.1 – *Did DOE rely on any evidence other than alleged compliance with water quality standards as a basis for the conclusion that the proposed permit would protect all characteristic and existing uses? If so, what did it rely on to support the assumption that beneficial and designated uses will be protected?*

Response—

See our response to **A.1.20**, on page 11.

A.3i.2 – *Because the proposed permit would allow the unregulated discharge of pollutants into the Columbia (pollutants for which the Columbia is already listed as water quality limited), the permit would violate Washington's anti-degradation policy' WAC 173-201A-070.*

Response—

The anti-degradation regulation, WAC 173-201A-070, allows increases in pollutant discharges as long as water quality standards are achieved and there is an over-riding public interest in allowing the increase.

A.3i.3 – *The proposed Fort James facility permit should be withdrawn and a new permit drafted that is both protective of the Columbia River and strictly complies with state and federal law… only after necessary data are gathered and studies performed.*

Response—

We at Ecology are authorized to write NPDES permits under delegation from the EPA, and are responsible to the people of this state –through directives from our legislature—for enforcing the permit requirements. We write each permit to control pollution, and to ensure statewide permit consistency in our permit determinations. The Camas mill's proposed discharge limits conform to the federal technological standards and to the state water quality criteria. These standards and criteria are embodied in laws on which the general public had opportunities to comment prior to their adoption –both the federal and the state Clean Water Acts.

The laws were designed to preserve the environment and to protect public health. Both federal and state rules and regulations undergo a similar public adoption process –a process of balancing and preserving beneficial uses of the state's waters, consistent with federal law. This permit conforms to the state's Water Quality Criteria and the Department's policy for implementing that regulation.

A.3j – Flow Limitation

A.3j.1 – *The permit as proposed lacks any effluent limitation for flow and as a result there is not a reasonable basis for concluding that water quality standards and beneficial uses will be protected. The applicant's facility has a maximum designed flow capacity of 76 million gallons a day and an average of 50 mgd. The flow should be limited because without a maximum flow there would be no limit to the BTUs that the applicant's discharges could release into the Columbia River even if a temperature limit was included.*

Response—

Flow is not a pollutant. Ecology only includes flow limitations in NPDES Permits in the exceptional situations of a scouring action in the receiving water or a hydraulic problem in the wastewater treatment facility.

Even if we were to consider a flow limitation at Fort James, too little time has elapsed since closure of the sulfite mill to determine a statistically valid flow limitation that takes into account variability and storm water. The average flow has gone from 49 million gallons per day (MGD) in the year prior to the closure, to an average of 36.1 MGD in the year after. The maximum flow reported in the year prior to the closure was 57.5 MGD, and the maximum thereafter was 45.7 MGD. The flow data reported to Ecology does not include an accounting for stormwater, which would have to be taken into account while developing a limitation. A limitation on flow is just not practical.

The commenter makes the point that limiting one side of the equation (either temperature or flow) indirectly limits heat load to the receiving water. To establish

limits for most pollutants, the EPA effluent guidelines and Ecology used mass loading –determined using both flow and concentration as limitations.

We expect that the TMDL will propose mega watts for the waste load allocation measure. Ecology will not include a flow limitation in the permit now, but we commit to reopen the permit within one year of the issuance of a final Columbia/Snake Rivers temperature TMDL, to put the waste load allocation for heat in the permit as a limit.

A.4 – Effluent Data

A.4.1 – *The applicant's effluent data appears to be more than ten years old, which raises the question of whether this data still accurately reflects that applicant's discharges. What evidence does DOE have that the applicant's effluent data remains accurate?*

Response—

Effluent data was submitted in November 1999. But the most recent effluent data was submitted to Ecology in June 2002; it accurately represents effects of the current operation of the mill. In addition, the proposed permit requires yearly priority pollutant scans on the discharge.

A.4.2 – *Have there been any process or other changes at the applicant's facility since 1991 that would affect the nature of its discharges? If so, what were these changes and how were the discharges changed?*

Response—

The most significant change since 1991 was the permanent shut down of Fort James' magnefite pulping process operation; it resulted in lower BOD loadings, and lessened DO levels. The change caused decreased pollution to air and water, and decreased amounts of solid and dangerous waste.

A.4.3 – *What did the applicant's most recent Whole Effluent Toxicity tests show?*

Response—

WET testing is an on-going requirement; the test results have been submitted quarterly, by the Camas mill, since 1991. The proposed permit requires the operator to re-characterize for whole effluent toxicity. The permit includes whole effluent toxicity limits if the re-characterization fails to meet the criteria for either acute or chronic toxicity.

A.4.4 – *Would water quality standards for heat and other pollutants be met if the maximum values of ambient current were used in the modeling? Has DOE prepared these evaluations? We are concerned that the UDKHDEN plume model used to model the effects of the applicant's discharges in 1991 is out of date and inaccurate. DOE should conduct its own modeling to confirm any submitted by the applicant.*

Response—

The UDKHDEN plume model is still being used today. The latest Permit Writer's Manual recommends the EPA PLUMES, CORMIX, and UDKHDEN Version 2.7 models. Ecology requires that future modeling of the permittee's discharge use up-to-date models that are approved by the state and the EPA. UDKHDEN, an EPA-approved mixing zone model, is an appropriate tool to model Fort James's discharge. It is used

to predict plume dynamics and dilution downstream of the discharge. It predicts, at worst case conditions, the temperature increase at the edge of the mixing zone of the discharge to be less than 0.3ºC. This result meets the water quality standards of Chapter 173-201A WAC.

A.4.5 – *The mere requirement to monitor effluent from outfall 003 does nothing to satisfy state and federal law requirements that the permitted discharges protect numeric water quality standards and beneficial uses. Is DOE aware of the characteristics of the waste that it would be permitting from outfall 003? If not, on what factual grounds could DOE conclude they would meet state and federal law?*

Response—

The data of Outfall 003 were available to Ecology since 1999, the latest in 2002. The result of a "reasonable potential" analysis indicates that Outfall 003 meets water quality standards. Outfall 003 is a sand trap purge from the well field located in the southeast area of the mill. It will be eliminated by routing its discharge to Outfall 001.

Fort James' wastewater treatment system was designed for and is capable of processing up to 76 million gallons per day (MGD) of raw wastewater with its primary and secondary treatment systems. The maximum flow from Outfall 003 is at 0.076 MGD and current Outfall 001 flow is 32 to 37 MGD. The diversion of Outfall 003 discharge to Outfall 001 will not burden the wastewater treatment system. Ecology analyzed the reasonable potential of the combined discharge and determined that Outfall 001 meets the water quality standards.

A.4.6 – *If the reasonable potential analysis was prepared based on the question of whether a given pollutant was likely to cause a violation of water quality standards at the end of the applicant's outfall pipe, for which pollutants would DOE have required effluent limitations?*

Response—

Based on the pollutant scan data on the mill's effluent, the potential to exceed analyses conducted by Ecology indicated that the effluent meets water quality standards for the acute and chronic criteria. For more information on this issue, refer to our response to **A.1.23**, on page 12.

A.4.7 – *The NPDES Permit for the Camas Mill (issued in 1991) specifically stated that the permit did not include requirements concerning the water supply plant wastewater in the following language at page 6:*

> Water Supply Plant Discharges to Blue Creek
>
> This permit does not include requirements concerning the water supply plant wastewater, since requirements placed in the previous permit resulted in the Permittee appealing to the State Pollution Control Hearings Board. The Board ruled on July 15, 1986, and Ecology subsequently appealed to Thurston County Superior Court. If a BPJ analysis of discharge data determines that a cost effective alternative exists, a discharge limit may be set.

Since the issuance of the permit in 1991, Ecology has neither pursued its appeal in Thurston County Superior Court nor undertaken an analysis as required by the Pollution Control Hearings Board (PCHB) in its July 15, 1986, Order.

The current draft permit does not contain the above quoted language, and it is otherwise silent on discharges to Blue Creek. However, General Condition G10, if read literally, would prohibit discharges from the water supply plant (the filter plant backwash) into Blue Creek. We believe the exemption language included in the prior permit was omitted as an oversight. Ecology needs to revise the draft permit by adding language similar to that appearing in the 1991 permit and thereby avoiding any ambiguity regarding the effect of General Condition G10 on the PCHB's July 15, 1986, Order.

Response—

Ecology omitted the language by error. The language cited in the amended permit issued in 1994 will be incorporated into the proposed permit because 1) the reasonable potential analysis indicates that Outfall 002 will meet the State Water Quality Standards of Chapter 173-201A WAC; and 2) the PCHB (PCHB No. 85-223 and 85-242, Crown Zellerbach Corporation v. DOE, decided July 15, 1986) ruled against limits imposed on the discharge, and the ruling was not overruled by any higher court.

A.5 – State AKART / Federal NSPS

A.5.1 – *Washington law, WAC 173-201A-100(2), requires that a discharger "fully apply AKART prior to being authorized a mixing zone." Is the applicant actually going to apply all known and reasonable treatment measures –or are there additional measures that could be applied that will not be required in this permit?*

Response—

Department of Ecology's policy is that if the federal effluent guidelines (in this case, BAT) for a specific category (in this case, paper grade kraft) are 5 years old or less, they will be deemed to fulfill the State's AKART (all known, available, and reasonable methods of treatment) standard. This is in part because the process for defining "economically achievable" under the federal rules is more rigorous that what has been applied for determining "reasonable" under the state rules.

We also evaluated the discharge to assure that it meets our water quality standards. Fort James has satisfied the AKART requirement and Ecology is unaware of any additional measures that could be applied.

A.5.2 – *If the applicant were to fully apply NSPS standards to all of the facility's discharges, please specify how many pounds per day additional TSS and BOD reductions could be achieved? The permit fact sheet highlights the varying efficiencies for TSS and BOD removal that will be required based on whether BCT or NSPS standards are applied. Ecology's rules state that "AKART shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge." Since applying NSPS standards to the applicant's discharges would substantially increase BOD and TSS removal, wouldn't Ecology's failure to require this level of treatment mean that the BCT standard is less than AKART and that the proposed mixing zone cannot be permitted? Is the technology that would achieve the NSPS limits not a known, available, and reasonable method of controlling BOD and TSS discharges? If not, please explain why not.*

Response—

The federal new source performance standards (NSPS) require industries to use the most effective equipment when making process changes or major modifications to

existing equipment within mill. When old equipment is replaced or new process equipment is added, then NSPS requirements apply to the resulting changed discharge.

Ecology's Industrial Section applies NSPS standards to any increase in production. It would be unreasonable to apply NSPS limits to a permittee's older process equipment, but Ecology does consider requiring the mill to meet NSPS standards when an increase in production results from some change other than new process equipment, e.g. de-bottlenecking. For discussion of the AKART determination for Fort James, refer to our response to **A.5.1**, on page 30.

A.5.3 – *On what grounds can DOE claim that AKART is being applied, and that the mixing zone is therefore justified when BCT is being applied to a majority of the applicant's process? The fact sheet, itself, demonstrates that BCT treatment will be significantly less effective in reducing TSS and BOD levels than NSPS.*

Response—

See our response to **A.5.1**, on page 30.

A.5.4 – *DOE proposes to apply NSPS standards to only a portion of the applicant's discharges and BCT to a majority of them. On what grounds will NSPS standards not be applied to all of the applicant's discharges? On what legal basis does DOE rely?*

Response—

The EPA requires that NSPS standards be applied to new or modified sources. Ecology has applied NSPS requirements to all processes/equipment at Fort James that are subject to this regulation. The permittee's older process/equipment will be required to meet new NSPS standards when that process/equipment is modified or replaced. Ecology relies on 40 CFR 430, the Final Pulp and Paper Cluster Rule, designed by the EPA to protect human health and the environment by reducing toxic releases to the air and water from pulp and paper mills.

A.5.5 – *Would the applicant be able to increase diffusion with a multi-port diffuser that is different than the one previously employed? If not, please explain how a single port could achieve greater diffusion than a properly designed multi-port diffuser. We are not experts in diffusion technology, but this seems counter-intuitive. Would the applicant's current single port diffuser be considered AKART or are higher efficiency diffusers available? If so, why are they not being required here?*

Response—

In the 1940s the States of Washington and Oregon commissioned an extensive limnological study (a scientific study of physical, chemical, meteorological, and biological conditions in fresh water) of the Columbia River from Bonneville Dam to Longview. As a result of that study Ecology's predecessor (the Washington Pollution Control Commission) ordered the installation of a deep water multi-port diffuser on the main stem of the Columbia.

The applicant's original diffuser was installed in 1950. This installation did not solve the long-standing Sphaerotilus natans (a naturally occurring slime bacteria) problem; so the State of Washington, the University of Washington, and the applicant embarked on a multi-year joint study of water quality near the facility. The study concluded that due to the flow characteristics of the river near the outfall, a multi-port

diffuser was a poor choice because it created wastewater pooling at downstream locations. Dye studies showed that a single-port diffuser provided superior dilution.

A single port discharge diffuser, installed in 1960, proved successful in eliminating the Sphaerotilus issue. In 1967 the discharge point was moved upstream to take advantage of the additional turbulence provided by an underwater reef. This discharge location has remained in continuous service.

Because of the flow change, several equipment shutdowns, and the length of time since the most recent mixing zone evaluation, this proposed permit requires a mixing zone (dilution ratio) study.

A.6 – Monitoring

A.6.1 – *The Camas Mill has long complied with the technology-based limits contained in its NPDES permit at both monitored outfalls. Over the past five years, the mill had no exceedance of a permit limit at either Outfall 001 or Outfall 002. The Department's Permit Writers Manual and EPA guidance both allow for a reduction in monitoring frequency, based on exemplary performance. Ecology's Permit Writers Manual has a procedure for calculating the allowable frequency reduction, based on the ratio of long-term effluent average to the monthly average limit.*

- *Accordingly, the mill is eligible for a reduction –from seven samples per week, monitoring for TSS (total suspended solids) and BOD (biochemical oxygen demand), to five samples per week.*
- *Monitoring of pH should also be reduced –from a continuous measurement, to a daily grab sample for Outfalls 001 and 002. This sample could be taken at the same time that mill technicians collect TSS and BOD samples for Outfall 001.*
- *For Outfall 002, we also request a change in flow measurement from a continuously recorded measure to an estimated flow, taken at the same time the pH sample is collected. This would reduce the need to maintain and calibrate permanently installed field instrumentation for pH at Outfalls 001 and 002, and for flow at Outfall 002.*

We propose neither to reduce the monitoring frequency for flow or temperature monitoring at Outfall 001, nor to reduce the monitoring frequency for parameters required under the Cluster Rule (AOX, chlorinated phenolics, chloroform, dioxin/furan).

Finally, assuming we comply with the conditions contained in the permit, we propose that the monitoring at Outfall 003 be reduced –from weekly monitoring to once per month—beginning in the third year of permit.

Proposed Changes to Monitoring Frequencies

Outfall	Parameter	Effluent Limitations	
		Monitoring Frequency	Sample Type
001	BOD	5/week	Continuous
	TSS	5/week	Continuous
	pH	5/week	Grab
002	pH	5/week	Grab

	Flow	5/week	Estimate

Lower effluent limitations are imposed in this permit, due to lower production levels, but the Camas Mill can continue its good performance. The mill greatly reduced its load on the treatment facility in recent months, and expects to make further process improvements over the next one to two years, while maintaining current production levels. The improvements have been informally discussed with Ecology and will be reviewed in more detail in the coming months.

Response—

Ecology records agree with Fort James' excellent water quality compliance; we also reviewed the Permit Writer's Manual as a guide for implementing Chapter 173-201A WAC. Ecology will deny the reduced monitoring frequency for the following reasons:

- The Columbia River is currently under extreme public scrutiny because it is water quality limited for temperature and other pollutants.
- Ecology wants to issue the permit as soon as practicable so that new limits and requirements can improve the permittee's environmental performance. If we modified the permit conditions as requested, (i.e. reduce monitoring frequency for BOD, TSS, and pH to Outfalls #001 and #002) we would be obligated to undergo a new public comment process –and thus further delay issuance of this permit.
- We placed a "re-opener clause" in the permit to accommodate the anticipated imposition of a Waste Load Allocation when TMDLs are developed for the River. If we wait for all eventualities to come to pass before issuing the new permit, Fort James would operate under the terms of its expired permit, indefinitely.

The proposed monitoring frequency will remain as our draft proposed, for this permit cycle.

A.6.2 – *The EPA modified its effluent guidelines for the bleached paper grade kraft and soda subcategory and the paper grade sulfite subcategory in 1998, including limitations for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and 2,3,7,8-tetrachlorodibenzofuran (TCDF), to be applied at the bleach plant discharge. The draft permit requires that the two Camas Mill bleach plants be monitored monthly, and that they not exceed a TCDD limit of non-detect at a minimum level of 10 picograms per liter and a TCDF limit of 31.9 picograms per liter. Ecology originally required a TCDD limit in the prior permit in order to demonstrate compliance with a 1.31 mg/day TCDD wast load established in EPA's Total Maximum Daily Load analysis. The limit was applied at the combined bleach plant sewer (monitored quarterly), while a quarterly monitoring condition was established at the final outfall for both TCDD and TCDF.*

In the draft permit Ecology issued for public comment, retains the requirement to monitor at the outfall. We believe there is no longer a need for this requirement for the following reasons:

1. *we have established a seven-year monitoring record which consistently results in non-detectable levels for these compounds;*
2. *it duplicates the more restrictive technology-based requirement to meet limitations at the bleach plant discharge prior to wastewater treatment; and*
3. *the original intent of assuring compliance with the waste load allocation has been rendered unnecessary due to the successful installation of bleach plant technology required under the Cluster Rule and implementation of the Total Maximum Daily Load*

("TMDL") limit for dioxin in the Columbia River[1][3].

We therefore ask that monitoring requirements for TCDD and TCDF, at Outfall 001, be deleted.

Response—

This permit requires monthly monitoring of the Camas mill's two bleach plants; they cannot exceed a TCDD limit of non-detect at a minimum level of 10 picograms per liter, and a TCDF limit of 31.9 picograms per liter.

Ecology wants to maintain the monitoring for dioxin and furans at Outfall 001 to assure that the discharge will meet the TMDL allocations for dioxin there. Thus, this permit will retain the monitoring condition established at the final outfall for both TCDD and TCDF.

A.7 – Totally Chlorine Free

A.7.1 – *The applicant should prepare and submit to DOE a comprehensive analysis of costs and procedures of converting to a totally chlorine free (TCF) bleaching process. Postponing this analysis until after the permit is renewed defeats the purpose of the analysis.*

Response—

When the EPA published its most recent effluent guidelines (April 1998), the guide included limits and monitoring requirements for 2,3,7,8-TCDD, 2,3,7,8-TCDF, chloroform, and 12 chlorinated phenolics at the effluent from the bleach plant, and AOX at the final effluent from the mill. The best available technology economically achievable (BAT) limits for kraft mills were set at a level that would require the mill to convert to 100% substitution of chlorine dioxide for elemental chlorine or hypo-chlorite, commonly called elemental chlorine free (ECF) bleaching. The BAT limits for paper grade magnesium oxide sulfite mills were set at a level that would require the mill to convert to TCF bleaching process. Fort James has converted the kraft mill to the ECF process—actually they converted to extended delignification ECF at one of their bleach plants and are planning to convert the other plant to this process—which is more than is required to meet federal effluent guideline requirements. (They also had converted their sulfite process to a TCF bleaching process prior to 1998 but shut down that part of the mill in late 2001.)

Department of Ecology policy is that if the effluent guidelines (in this case BAT) for a particular category (in this case paper grade kraft) are 5 years old or less they will be deemed AKART (all known, available, and reasonable methods of treatment. This is in part because the process for defining economically achievable under the federal rules is more rigorous that what has been applied for determining reasonable under the state rules.) This permit required BAT for the bleaching process limits and Ecology is pleased that the facility decided to go beyond that requirement with extended delignification.

A.7.2 – *What basis does DOE have to postpone this analysis until after it issues the permit? Isn't the purpose of the analysis to encourage a switch to chlorine-free processes? If not, why?*

Response—

[1] Both the States of Washington and Oregon delisted the Columbia River as being water quality limited for dioxin in the late 90's after successfully implementing the TMDL.

At this time Ecology has insufficient information and lacks means for developing sufficient information, to determine whether TCF is AKART. We rely upon the EPA's BAT economically achievable determination as equivalent (see above response).

Because of a requirement in the current NPDES Permit, Fort James submitted information to Ecology, evaluating bleaching technology related to a proposed AOX limit. Since the time of that submittal, however, the bleaching process at these mills has changed so significantly that the information must be updated. The importance of this issue demands that the bleach mills continue to examine bleaching technology changes, until even further reductions of chlorine use in bleaching have become economically reasonable.

Ecology cannot impose a stricter performance standard upon one facility and not apply it to all "similarly situated" facilities (or their competitors). Nor can we impose a blanket standard upon all pulp and paper mills operating in Washington, and thereby place our own industries at an economic disadvantage to their co-owned or to their competitors' facilities, operating in other states.

A.7.3 – *In 1998, the EPA developed the Cluster Rule. EPA has since issued several modifications and clarifications to that Phase 1 rulemaking. The main issues involved in the paper grade kraft and sulfite Phase 1 rule package largely centered on the availability and feasibility of requiring the industry to install totally chlorine free (TCF) bleaching, and the environmental benefits of TCF over elemental chlorine free (ECF) bleaching. After study, the agency chose to base its technological standards for the bleached kraft pulp industry sector on the performance of bleaching technologies that did not use elemental chlorine and sodium hypochlorite as bleaching stages. Since that time, the worldwide growth of ECF pulp has grown at a rate of 10 percent per year and totals more than two-thirds of the world market share of chemical pulp.[2] The graph above illustrates recent trends in bleached chemical pulp production.*

Globally, the pulp and paper industry responded to concerns about the discharge of potentially harmful chlorinated compounds; it discovered ways of reducing harmful bleaching byproducts while still providing the quality and range of paper products consumers expect. As was true when EPA completed its evaluations of bleaching technologies worldwide, the only domestic facility to produce fully bleached TCF pulp continues to be the Samoa Pacific Cellulose LLC (formerly Louisiana-Pacific) mill in Samoa, California.

The Camas Mill installed elemental chlorine free bleaching in two of its three bleach plants that process kraft pulps. The third bleach plant, which processed magnesium bisulfite pulp, was totally chlorine free. Because this TCF bleach line produced the highest cost bleached pulp in the Georgia-Pacific system, it was shut down for economic reasons in October 2001. This is a prime example of the kinds of cost and competitiveness issues faced by any capital-intensive global industry. Requiring installation of expensive technologies in Washington that are not shared across the entire industry creates a competitive disadvantage for the state's manufacturing sector, with no real environmental gain. It is arbitrary for Ecology to now require mills in Washington to expend additional resources to complete yet another bleaching technology feasibility study.

Response—

[2] The Alliance for Environmental Technology, "Trends in World Bleached Chemical Pulp Production: 1990-1999," October 1999. 2000 AET International Survey.

Condition S1.G in the proposed permit requires the permittee to submit a comprehensive analysis of converting the existing elemental chlorine free (ECF) to a total chlorine free (TCF) bleaching process. The evaluation will give Ecology a cost analysis, including capital conversion costs and the predicted product sales impacts, as well as the facility's long-term economic viability following conversion.

We are requiring all pulp and paper mills located on the Lower Columbia River to perform the analysis for our evaluation; the requirement is not specifically aimed at the Fort James Camas mill. We will use the information to evaluate the economic feasibility of conversion. Ecology wants to emphasize that the analysis is not a requirement to the industry for a TCF replacement to the current operation; it will be used to confirm that the current effluent control is indeed AKART. The condition will therefore remain in the permit.

Section B – NPDES Program and Permitting Process

B.1 – Permit Shield

B.1.1 – *Georgia-Pacific requests that Ecology insert permit shield language into the general conditions of this permit, as allowed under the federal Clean Water Act (please reference Georgia-Pacific comments on Ecology's draft NPDES permit for the Camas Mill*).

Response—

Fort James, Camas LLC (through Georgia-Pacific Corporation) asked that the following language be included in their permit:

> *"Compliance with this permit during its term constitutes compliance, for purposes of enforcement, with the Washington State Waste Discharge Act and the Federal Water Pollution Control Act to the extent provided in 40 C.F.R. 122.5. This permit provides authorization and therefore a shield for the following pollutants resulting from facility processes, waste streams and operations that have been clearly identified in the permit application process when discharged from specified outfalls:*
>
> 1. *Pollutants specifically limited in the permit or pollutants which the permit, fact sheet, or administrative record explicitly identify as controlled through indicator parameters;*
> 2. *Pollutants for which the permit authority has not established limits or other permit conditions, but which are specifically identified as present in facility discharges during the permit application process; and*
> 3. *Pollutants not identified as present but which are constituents of waste streams, operations or processes that were clearly identified during the permit application process.*
>
> *Notwithstanding any pollutants that may be authorized pursuant to subparts I and 2 above, this NPDES permit does not authorize the discharge of any pollutants associated with waste streams, operations, or processes which existed at the time of the permit application and which were not clearly identified during the application process."*

The language proposed is EPA's interpretation of the "permit as a shield" language in the CWA. This language grants an affirmative defense to a permittee, against in any enforcement action for violating the State's water quality standards,

so long as the procedural elements have been completed. Although we agree with the substance of this policy, Ecology will not include this policy as language in any NPDES permit.

The permit shield concept has been firmly established through court rulings and EPA policy, but the shield is only applicable when the discharge conditions are fully disclosed prior to writing the permit. In other words, the permittee should retain the burden of proving that its discharges are not violating Washington's water quality standard; adding the suggested language to the permit would shift the burden of proof to Ecology.

B.1.2 – *This brief letter endorses the comments which urge Ecology to expressly provide for a "permit shield." NWPPA members (including Georgia-Pacific) interpret both the federal Clean Water Act (CWA) and Washington State laws and regulations as providing for a permit shield, and recent case law upholds the concept.*

Statutory language in the CWA at 33USC Section 1342(k) confers a permit shield by providing that compliance with an NPDES permit constitutes compliance with the CWA; and WAC 13-201A-060(A) provides that an NPDES permit shall be conditioned so that the authorized discharge meets water quality standards, and that persons discharging in compliance with the terms and conditions of permits shall not be subject to civil and criminal penalties on the basis that the discharge violates water quality standards.

An essential feature and benefit of the NPDES permit program is to provide certainty for the permittee for the duration of the permit. Last year, NWPPA was part of an AWB coalition which raised the permit shield issue with Ecology's Water Quality Programs. At the time, AWB was considering legislation to clarify the permit shield concept by requiring inclusion of language similar to that requested by Georgia-Pacific. It was NWPPA's understanding that Ecology would honor the permit shield concept for NPDES permits involving well-characterized effluents such as those associated with pulp and paper mill discharges. On this basis, NWPPA and others agreed that legislation would not be needed.

NWPPA respectfully asks Ecology to honor its commitment with respect to this and all pending pulp and paper NPDES permits. Unfortunately, given the timing of the discussions last year, it was not possible to make specific provision for permit shields in several NPDES permits which were then nearly final. Consequently, those permits should not be considered as precedent on this issue.

Response—

Ecology's commitment is to protecting Washington's waters for the beneficial use and enjoyment of existing and future generations. Our duty is to ensure that the limits, conditions, and requirements in wastewater discharge permits protect water quality. Our response to NWPPA, therefore, is identical to our response to Fort James's comment about the permit shield issue (**B.1.1** above).

The language proposed is EPA's interpretation of the "Permit as a shield" language in the CWA. This language grants an affirmative defense to the permittee, against any enforcement action for violation of the State's water quality standards, so long as the procedural elements have been completed. Although we agree with the substance of this policy, Ecology will not include this policy as language in an NPDES permit.

The permit shield concept has been firmly established through court rulings and EPA policy, but the shield only applies when the discharge conditions are fully

disclosed prior to writing the permit. In other words, the permittee should retain the burden of proving that its discharges are not violating Washington's water quality standard. Placing the suggested language into the permit would shift the burden of proof to Ecology.

Section C – Interests Outside of NPDES Controls

C.1 – Air Emissions

C.1.1 – *Noxious gases from the plant are commonly smelled on both the Oregon and Washington sides of the Columbia River. A very large percentage of local residents complain about this smell and possible associated health risks. The plant is also responsible for pollution of the local waterway. Since Georgia-Pacific has failed to abide by applicable laws on this issue, the permit must be denied.*

Response—

This comment consists of two parts: air pollution and water pollution concerns. We invite scrutiny of Section A for responses to specific concerns. NPDES permits –-the subject of this public comment opportunity— are not, however, designed to control air pollutants. Rather, the mill's air emissions are measured, monitored, and controlled under the following authorities:

1. Federal Clean Air Act.
2. Washington Clean Air Act, Chapter 90.94 RCW.
3. General Regulations for Air Pollution Sources, Chapter 173-400 WAC.
4. Kraft Pulping Mills Regulation, Chapter 173-405 WAC.
5. Air Operating Permit No. 000025-6.
6. EPA's Title 40 Code of Federal Regulations Part 60.
7. Monthly Data Monitoring Reports.
8. Scheduled and unannounced inspections.

While there have been isolated instances of noncompliance with the Air Operating Permit, we have vigorously enforced against these unanticipated events through Orders to correct the problems and/or through assessing financial penalties.

C.1.2 – *The costs to the environment and health of the local residents have not been internalized in the cost of the water permit granted to Georgia-Pacific. Thus, the State of Washington has subsidized Georgia-Pacific's pollution of the area by failing to charge Georgia-Pacific for the resulting damage to our health and environment. This subsidy must end, unless Georgia Pacific is willing to pay for the full cost of the damage it creates.*

Response—

Regulations adopted by the State to protect health and the environment include water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). Our authority to regulate the mill excludes un-measurable cumulative effects of its operations. Once the mill

meets measurable criteria, Ecology expects that health and the environment are being protected.

C.1.3 – *The Columbia Gorge has world-class potential as a major tourist destination and tourism-related economic development. Multnomah Falls is one of the most popular tourist destinations in the State of Oregon. Skamania Lodge and Gorge amphitheater are popular destinations on the Washington side of the river. The Columbia Gorge is already world-famous as a fishing, windsurfing, and scenic destination. Unfortunately, the Georgia-Pacific plant is extremely close to the Columbia River national scenic area and is inconsistent with tourism. The unsightly Georgia-Pacific plant and associated pollution continues to have a serious and profound chilling effect on local tourism, especially on the Washington side of the river. But for the plant, tourism could be an even greater source of jobs in the Columbia River corridor. Currently, tourists have a lessened desire to stop in Camas, Vancouver, and Northern Portland due to the noxious odors and water pollution associated with the plant.*

Response—
Thank you for your comment.

C.1.4 – *I have worked for Washington's largest and fastest growing high-technology companies. High-technology companies use specific criteria when they decide to locate to a specific region. In order to attract this business, Southwest Washington must emphasize and develop its competitive advantages vis-à-vis other possible business locations. Quality of life and proximity to Portland are the primary competitive advantages available to Southwest Washington. The pollution from the Georgia-Pacific plant is one of the most serious issues negatively impacting local quality of life. I know a number of people and businesses that refuse to live in Camas and Vancouver due to the noxious fumes from the plant. This creates a spiraling effect whereby the community becomes increasingly dependent on Georgia-Pacific as the only source of jobs because other businesses refuse to operate in proximity to the plant. The opportunity cost of losing these other businesses is huge.*

Response—
Thank you for your comment.

C.2 – Water Rights

C.2.1 – *At a time when it is virtually impossible for an individual landowner to obtain a permit for a water well, Georgia-Pacific continues to consume a huge amount of water both directly and indirectly. In addition to direct consumption in the plant, the plant indirectly consumes a huge amount of additional water when polluted water expelled from the plant mixes into the Columbia and local Camas aquifer. The resulting polluted water cannot be used for other purposes. This use is disproportionate to the economic contribution of the plant to the economy of Washington.*

Response—
Thank you for your comment.

C.3 – Economic Decisions

C.3.1 – *The company is already downsizing and has laid-off a number of employees. The company has not demonstrated a commitment to the community and cannot be relied upon as a reliable source of jobs. Ecology cannot be blamed for loss of jobs due to a permit denial when the company has already terminated many of those jobs.*

In addition, most Vancouver residents believe that denying the water permit will create opportunities resulting in creation of many more jobs than currently available at the Georgia-Pacific plant. However, current Georgia-Pacific employees would have to review the opportunities created by this transition in order to take advantage of them. They would have to look at areas such as tourism and other industries. This process may be frightening to many Georgia-Pacific employees. These employees must be willing to learn how to do other things.

Clearly, the community would have to work together to overcome this problem. However, the economy is constantly shifting into different business cycles. Resulting jobs are created and lost through natural business cycles. The denial of a water permit here would mark a transition to more profitable businesses that would have a net gain to the community.

Response—
Thank you for your comment.

C.3.2 – *You will be lobbied by specific interests and pressured by a number of individual with a direct financial stake in Georgia-Pacific on this issue. Please do not forget that you are charge with protecting the public interest and not with the specific interests of Georgia-Pacific. In this case, Georgia-Pacific's financial interests are inconsistent with the needs of the public. Please make the correct decision.*

Response—
Thank you for your comment.

C.4 – Special Consultation

C.4.1 – *The Columbia River Inter-Tribal Fish Commission desires a government-to-government consultation on the permit with Ecology's Director Fitzsimmons.*

Response—
We appreciate the Commission's special interest in the health of the Columbia River and its essential role in salmonid propagation. We believe that this permit protects that role [see Section **A.3** – Water Quality]. The Commission properly made its concerns known to us by electronic mail during the formal public comment period.
